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BEVERAGES

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54 Fermenting Vats 6 (Pumps D & W)

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A.D. 1847 . . . . N° 11,586.

Distilling and Brewing.

ROBERTSON'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, Joseph Clinton Robertson, of Fleet Street, in the City of London, Civil Engineer, send greeting.

WHEREAS Her present most Excellent Majesty Queen Victoria, by Her Royal Letters Patent under the Great Seal of the United Kingdom of Great Britain and Ireland, bearing date at Westminster, the Twentieth day of February, One thousand eight hundred and forty-seven, in the tenth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Joseph Clinton Robertson, my ex̃ors, adm̃ors, and assigns, Her especial licence, full power, sole privilege and authority, that I, the said Joseph Clinton Robertson, my ex̃ors, adm̃ors, and assigns, or such others as I, the said Joseph Clinton Robertson, my ex̃ors, adm̃ors, or assigns, should at any time agree with, and no others, from time to time and at all times during the term of years therein expressed, should and lawfully might make, use, exercise, and vend, within England, Wales, and the Town of Berwick-upon-Tweed, and in the Islands of Guernsey, Jersey, Alderney, Sark, and Man, and also in all Her said Majesty's Colonies and Plantations abroad, the Invention of "Certain Improvements in Distillation and Brewing, and certain Applications of the Materials used in or suitable therefor to other Manufacturing Purposes," being a communication from abroad; in which said Letters Patent is contained a proviso that I, the said Joseph Clinton Robertson, should cause a particular description of the nature of the said Invention, and in what manner the same is to be performed, by an instrument in writing under my hand and seal, to be inrolled in Her said Majesty's High Court of Chancery within six calendar months next and immediately after the date of the said in part recited Letters Patent, as in and by the same, reference being thereunto had, will more fully and at large appear.

NOW KNOW YE, that in compliance with the said proviso, I, the said Joseph Clinton Robertson, hereby declare that the nature of the said Invention, and in what manner the same is to be performed, are fully described in and by the present Specification thereof, reference being had to the Drawings hereunto annexed, that is to say:—

The said Invention consists, firstly, in the employment in distillation and brewing of cane juice or beetroot juice in a liquid or concentrated or concrete state, or molasses in a concrete state, and also in the application of the said materials to other manufacturing purposes where sugar or molasses is used. When any of these materials are used for brewing or distilling purposes, it is found to be advantageous to purify them as little as possible, so that as much as may be of all the natural component parts of the cane or root should be left therein, whereby the process of fermentation will be greatly promoted; but when any of the above materials are to be employed for any manufacturing purposes other than brewing and distilling, it is recommended that they should be purified to the fullest extent before concentrating or concreting the same, so as to avoid fermentation. The modes of employing these materials are the same as those ordinarily adopted where sugar or molasses are used for any of the aforesaid objects, and no claim is made as regards these modes.

Secondly, the Invention consists in the employment of vessels made of wood instead of copper for distilling purposes. The heating medium for operating with such wooden vessels may be either steam or hot water, or any other that may be found suitable for the purpose. The heating medium, whatever it may be, can be made to circulate through metal pipes arranged in the wooden vessel, and which pipes may be of any convenient form or dimensions. The advantages attending the employment of such wooden vessels consist in their being slow conductors of heat than copper, in their costing less, and in the materials required for their construction being to be had in nearly all places and under all circumstances.

Thirdly, the Invention consists in an improved method or process of promoting the formation of alcohol from saccharine juice, whether that saccharine juice be derived from the sugar cane, malt, fruit, or any other source.

Figure 1 of the annexed Drawings is a sectional elevation of a fermenting vat, and Figure 2 a plan of it. A, A, is the vat. B, a pipe through which atmospheric air is impelled by a forcing pump into the liquor in the vat. The pipe B terminates in a number of smaller radial pipes C, C, C, which are perforated with numerous small holes, so that the air as it escapes into the fluid is diffused amongst it in numerous small streams. The wort and its requisite quantity of yeast are introduced into the vat at a temperature of about 45° or 50° Fahrenheit. Atmospheric air is then to be forced through the pipe B by means of the force pump, until the conversion of the gluten has been effected, as also the transformation of the saccharine matter into alcohol. Great care must be taken not to allow the temperature of the liquor to exceed 50° Fahrenheit, because at a higher temperature a portion of the alcohol produced by the decomposition of the saccharine matter will be converted into acetic acid, while if kept below 50° little or no formation of acetic acid will take place, and yet both the transformation of the sugar into alcohol and the transformation of the yeast will be effected. During cold weather the temperature of the fermenting fluid may be easily kept within the proper range of temperature, by heating the air previous to its introduction amongst the liquor, but in warm weather the temperature of the liquor may require to be kept by artificial means from rising above the proper degree. The means directed to be adopted are the cooling the air forced into the vat by making the pipe B pass through cold water, or by having the outside of the vat itself covered with some textile fabric kept constantly wet by water being allowed to flow upon it in numerous small streams or drops issuing from a perforated pipe E, E, which surrounds the vat near to its upper edge. The evaporation of the water, as it is more or less facilitated by a draught of air through the apartment, will more or less affect the temperature of the vat and its contents.

Fourthly, the Invention consists in a modification of the method or process last herein-before described, whereby it is rendered applicable to the manufacture of vinegar, and which modification consists in allowing the temperature to rise to about 70°.

Vinegar

Fifthly, the said Invention consists in the employment of the method or process last herein-before described, for the purpose of speedily converting new ale or beer or wine into the condition of old ale, beer, or wine. The vat A is in this case used as a storing vat, and the temperature of the liquor kept at about from 45° to 50°, care being taken not to allow it to get above 50°, but rather keeping it under that point, and at the same time supplying oxygen by means of the forcing pump. Atmospheric air will in most cases answer the purpose, but pure oxygen gas might in some others be preferably employed.

ageing

The great supply of oxygen thus introduced at this low temperature speedily converts any saccharine juice which may still be in the liquor after if has been taken from the cleansing vats into alcohol, without endangering the alcohol being converted into acetic acid or its other compounds with oxygen.

And having now described the several improvements which constitute the Invention communicated to me as aforesaid, I declare that what is claimed is as follows:—

First, the employment of cane juice or beet root juice, either in a liquid, a concentrated, or a concrete state, and of molasses in a concrete state, in distillation and brewing, and the application of the said materials to all other manufacturing purposes where sugar or molasses is used.

Second, the employment of wooden vessels for distilling purposes.

Third, the method or process of promoting the formation of alcohol from saccharine juice at a low temperature, as before described, whether the same is effected by the apparatus before described or by any other suitable apparatus.

Fourth, the modified application of the said last-mentioned method or process to the manufacture of vinegar, as before described.

And fifth, the application of the method or process last described, irrespective also of the apparatus employed to the conversion new ale, beer, or wines into the condition of old beer, ale, or wine.

In witness whereof, I, the said Joseph Clinton Robertson, have hereunto set my hand and seal, this Twentieth day of August, in the year of our Lord One thousand eight hundred and forty-seven.

J. CLINTON (L.S.) ROBERTSON.

AND BE IT REMEMBERED, that on the Twentieth day of August, in the year of our Lord 1847, the aforesaid Joseph Clinton Robertson came before our said Lady the Queen in Her Chancery, and acknowledged the Specification aforesaid, and all and every thing therein contained and specified, in form above written. And also the Specification aforesaid was stamped according to the tenor of the Statute made for that purpose.

ANDERSON.

Enrolled the Twentieth day of August, in the year of our Lord One thousand eight hundred and forty-seven.

LONDON:
Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1857.

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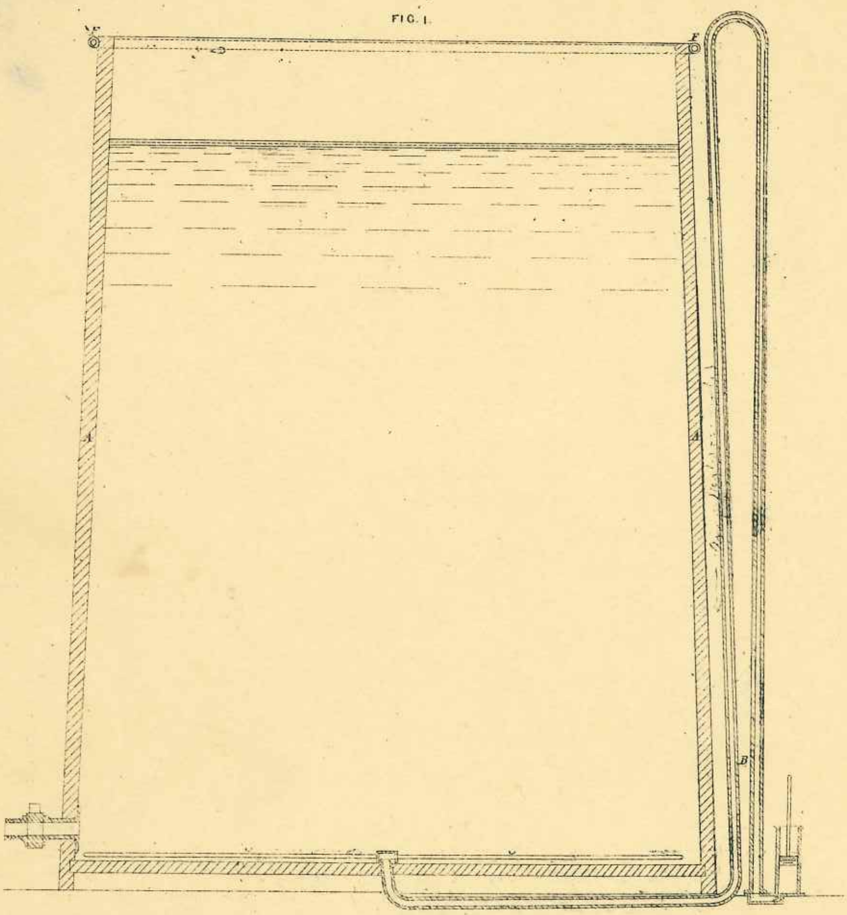
(1 SHEET)

A.D. 1847. FEB 20. Nº 11,586.
ROBERTSON'S SPECIFICATION

FIG. 1.



A is a fermenting vat the desired temperature(40 to 50 F.)of which is attained by injecting air,of regulated temperature,through B,and perforated pipe,C, or by causing water to trickle,from perforated pipe,F, over textile material with which the sides are covered.

FIG. 2.